

THE
AMERICAN PRACTITIONER:

A MONTHLY JOURNAL OF

MEDICINE AND SURGERY.

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CONTENTS.

ORIGINAL COMMUNICATIONS:

THE ANIMATING FORCE. BY J. W. HOLLAND, M. D.....	358
EPITHELIAL CANCER OF THE COLON. BY S. LITTELL, M. D.....	371
AN ADDRESS ON THE LIFE AND PROFESSIONAL CHARACTER OF GEORGE W. BAYLESS, M. D. BY R. O. COWLING, M. D.....	374
TOPICAL REMEDIES IN DISEASES OF THE THROAT, NOSE, AND EAR. BY THOS. F. RUMBOLDT, M. D.....	390
REVIEWS	393
CLINIC OF THE MONTH.....	399
NOTES AND QUERIES.....	317

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THE AMERICAN PRACTITIONER:

A MONTHLY JOURNAL OF

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THE AMERICAN PRACTITIONER.

NOVEMBER, 1873.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

THE ANIMATING FORCE.*

BY J. W. HOLLAND, A. M., M. D.,

Professor of Medical Chemistry and Toxicology in the University of Louisville.

GENTLEMEN OF THE MEDICAL CLASS:

You are welcome to the halls of the University. The generous provisions of the city for the cultivation of medical science are put at our disposal, and we invite you to make the most of them. A hearty recognition of old relationships is extended to our former students who are present, and to the new-comer the sincere assurance that his teachers will be his warm friends, who would make that venerable institution a real home to him. From many parts of our broad country you have come together for a single purpose. From many fields of labor your attention has been directed to the thoughtful consideration of the phenomena of life and disease. How do animate things have their being? What means this decay with which nature marks her progress?

*An Introductory Lecture, delivered October 6, 1873.

Helplessly you may have gazed upon faces distorted by pain. Despite your protesting love, despite the ministrations of our art, you have seen dear ones sink into the tomb. Men like our late colleague, the lamented Bayless, with bodies apparently fitted for long and happy lives, and brains teeming with the ripe results of a life-time of study, by death are smitten, and they fade away. With reverential regards you would now look on the mysterious face which Isis veils from the profane eye. You now aspire to arm yourselves with all sanative power that you may restore harmony to discordant functions, that you may stand on guard at the gate that lets out your fellow-man from the "golden circuits of the day."

A course of medical lectures is highly satisfying to him who is warmed to it by the ardor of benevolence, while no pursuit is more fascinating to him who is urged by the keen spur of the spirit of inquiry. To him who endures the task solely that he may afterward get money it will always be naught but dry bones. Besides an abiding enthusiasm for the practical work of medicine, I would have you bring to the studies of this session a faculty of ideality, which will afford insight into things below the surface. Then a bone, a crystal, a cell will awaken thoughts of the great primal agencies with which it is endowed, as young and potent now as when out of a nebulous haze they molded a world. Whether you will be much the wiser by our lectures or not depends chiefly upon your intellectual frame and habits of application. I would have your labors energized by a far-reaching thought, such as inspired Bossuet when he left the brilliant court of Louis XIV. for the anatomical theater of Duverney. This inaugural occasion could well be employed by putting you in possession of a lofty idea to act as an ever-present incentive for the attention.

In selecting a theme I have also had in view the varied nature of my audience. There are learned men of science,

students of various grades, and our friends of the laity who have honored us by their presence. The chronicler of this decade will note as prominent among its progressive features the disposition of the non-professional public to study general science. "Properties of matter," "conservation of force," are expressions familiar to the minds of the reading-class of every vocation. While then my discourse must be mainly scientific—that is, must deal with what is the highest development of common knowledge—I indulge myself in the hope that it shall not be unsuited to any considerable portion of my hearers. A saying of Aristotle suggests a subject competent to furnish instruction and promising rational entertainment to the non-medical as well.

Said he: "If the knowledge of things becoming and honorable be deservedly held in high estimation, and if there be any species of knowledge more exquisite than another, either upon account of its accuracy or of the objects to which it relates being more excellent or wonderful, we should not hesitate to pronounce the history of the animating principle as justly entitled to hold the first rank." By the term "animating principle" was meant the vegetative and sentient part possessed by plants and animals, and not the spiritual part, which brings man into religious relations with the Supreme Being. We delight to watch the gray expanse of years rolling away like a fog as we listen to him that speaks from the midst of the glory that was Greece. Many things were conjectured by the subtile philosophy of that time that we of this day have arrived at only by tedious processes of induction. Who does not take pleasure in the reflection that when science was at its dawn Epicurus defended an atomic theory, and Pythagoras ascribed the origin of life to heat. Over this rising day the clouds of the dark ages soon lowered, and the thinkers of centuries went groping about as if in unilluminated night. For more than a thousand years no systematic researches were made in this direction, unless the delusive quest

for the elixir which should prolong human life interminably can be so called. Yet was their labor not all in vain, for it discovered a mass of facts which else might have remained forever unknown. Ground so turned up and broken by the fruitless search for hidden treasure brought forth a more abundant harvest than a soil untilled. In surveying its results—chemical, physical, and medical—we should be grateful for the insane passion of alchemy as the thoughtful Christian gives thanks for the false religions that left hieroglyphs of history. It was not till about the latter part of the eighteenth century that science was able to free itself from the trammels of alchemy and cease to follow the vagaries of closet dreamers. Hotly contested controversies were decided by arbitration of instruments of precision, and physics and chemistry took a new start at a wonderfully accelerated pace. By subjecting her actions to test with the scalpel and microscope of the physiologist, the balance of the chemist, and the vernier of the physicist, nature's secrets are now so well understood by her wisest sons that almost have they plucked out the heart of her mystery.

The conceptions of the animating principle entertained by the fathers of science, as well as the later and more elaborate ones of Newton and Leibnitz, were projected far outside the facts then ascertained, and could not have to them the significance which nearly the same ideas have for us. The seed sown long ago fell on stony ground, and not until our century did it take root in the soil made fertile by enlightened cultivation. Science has been remodeled by accurate experiments in diverse directions until now all the facts brought to light are included in a formula springing from them, and so completely in harmony with them as almost to take the rank of a fact itself. A division of this formula is embodied in the doctrine known as "unity of force;" one that for years past has occupied the minds of scientists and physiologists every where, and which is now regarded as the best established

conquest of contemporary science. This is the thought which shall refresh you when tired of details, for a scientific course can retain clearness and continuity best when its multitudinous facts are connected by abstractions upon the concealed causes and the laws by which they act. You should endeavor to possess yourselves of this key to biological study notwithstanding there are those who decry this kind of mental employment as unpractical, and boast of their own ignorance as a city beauty sometimes plumes herself upon her unhealthy pallor.

Near the beginning of this century the chemist Dalton revived that lucky guess of Leucippus about the constitution of matter, making more probable his notion that it is formed of particles infinitely small, called atoms. This proposition and its concomitants is made use of in the most advanced physico-chemical theory of life, the outcome of the modern method of approaching this perplexing problem. The universe is conceived to be composed of these indivisible points, which are held separate forever, with interspaces wider than their own diameters. The densest equally with the most attenuated bodies are made of these hypothetical atoms. All objects judged by the eye as sublime or mean are as one in this. The ever-during cliff and the surf that beats upon it, the mud-hatched worm and the man that crushes it under foot, the tall palm fixed to its birth-spot and the tiger that leaps from its shadow, the feather tossed in the wind and the fiery orb whose unequal heat drives the hurricane, all illustrate a oneness of intimate structure.

These atoms are supposed to be in unceasing motion, it may be of vibration or revolution or circulation. Different modes of motion are indicated by the forces heat, light, electricity, magnetism, cohesion, chemical affinity. Intensity of motion can be increased or diminished by communication of impulse to or from other forms of matter. That matter, as we know it in this era, is indestructible is now universally

conceded. We have never seen it perish, nor can any one claim to have created it. A solid or a liquid may vanish, but only into a vapor, which can always be discovered by appropriate tests. Countless changes may be impressed upon it without appreciable loss. Such a thing as dead matter, vaguely so called, has never been revealed. It is not like a bundle of fagots, in ordinary experience, to which a flame must be applied before it is kindled. In its humblest and most quiet condition nature's vestal fire is secretly burning. When it is said that this thing is dead and that alive, that this is at rest and that in agitation, we use the words in a contracted sense, meaning, in fact, that a particular kind of force is present or absent. Nothing is absolutely inactive.

If we sharpen our senses by the aid of instruments, such an imagined state as rest will disappear from our minds at once. Every star wheels on in its God-given groove. The revolution of the earth spreads the panorama of a rising and a setting sun alternating with the nightly march of the constellations. Winds disturb the air and play at shifting the wondrous scenes of cloud-land. Unresting change reigns in the granite hills and in the watery world. Quietly the plant transmutes the soluble elements of the soil and formless gases into its fiber, and subsists by the motion of its juices. These movements on a visible scale are the analogues of motions seen only by the mind's eye as incessant in the particles of bodies which become apparent in the ardent clashing of combustion, the brisk vivacity of effervescence, and the orderly accretion of a crystal. The flinty pebble as well as the soft animal tissues are maintained as such by the motions of their atoms. Nature's life is force playing in and among multiform masses of atoms, ever changing, but without loss or gain. This is the speculation adopted by the new philosophy, and the physiologists who work by it conduct their researches regardless of what was formerly considered an impassable gulf between physics and physiology.

Examine with me one of the most interesting manufactures known to the arts—a paper-mill and printing-press under one roof. Rags not woolen, of high and low degree, are by machinery dusted, boiled, then torn into shreds, which are next put in large vessels with revolving arms. Here the mass is reduced to a coarse pulp, which when bleached is further comminuted by a beater, and mixed with water until it has the appearance of milk. A regulated supply of this liquid pulp flows over a wire frame, where it is spread evenly, and the water drains away. Compressed upon felt, it is further deprived of water, and dried over steam-heated rollers, to issue finally in a continuous sheet of paper, with a texture wonderfully tenacious. Fed to the press of a daily journal, this paper is at last delivered into your hands, informed on every side with yesterday's transactions all over the civilized world, and pregnant with great thoughts to rule the policy of a nation.

One mechanical motor has wrought an incredible change; vile rags have come to bear momentous tidings or sound the alarm of a revolution. Many pieces of machinery are required to accomplish through many stages this marvelous result, but only one power. By proper apparatus steam is made to supply energy to the wheels and cylinders, which by their peculiar arrangement determine the kind of work done. Let the steam be shut off, and all this skillfully contrived combination of workers is as idle and valueless for this purpose as the unquarried ore.

So in nature it is assumed that one force operated by the First Cause in many ways upon different kinds of matter produces results infinitely diversified. It is one protean force, imminent in matter, whether it be manifested in the tempestuous seas or the chemical affinities of unlike molecules; whether it be the gravitative attraction which keeps order in space or the mysterious sympathies of a magnetic needle made to veer alike by a particle of iron and the auroral light; whether

it be the lively reactions of a photograph-plate or the vast activities of the organic kingdom.

Let us seek some illustrations of the unity of physical force, and then widen our survey to its relations with vitality. On applying heat to water expansion occurs; in other words, impulse derived from combustion is divided among the imperceptible atoms which extend the range of their excursions so that the general bulk is increased though the weight remains as before. Further addition of heat will cause the liquid particles to sweep beyond the sphere of mutual attraction into the vaporous state, as steam. The original particles, unaltered as to weight or number, move with such activity in repulsion that steam becomes a store of enormous mechanical force, which is made actual when it moves easily the ponderous beams and other dependencies of an engine. The rise of mercury in a thermometer held near that gas-jet means that the gross motion in the column followed the increase of molecular movement which radiated from the burning gas. A change of guise takes place in heat when it is applied to the joint of two metals; currents of electricity are set moving which can again generate magnetism in a coil of wire. Many processes of the laboratory sufficiently show the power of heat to assist chemical affinity. A striking exhibition of heat changed to light is seen when a non-luminous flame is made splendid by the introduction of a piece of lime. Whenever energy in action has seemingly ceased, and sunk from sight and touch, our instruments, with sensibilities more acute, inform us that near by, in a new shape, it has sprung into effectual life.

Applause is an inexpensive compliment; in conferring pleasure you lose nothing. On clapping your hands together the force of motion is suddenly arrested; it is not destroyed; for, besides the acquisition of a quicker pulse and breathing, your palms are sensibly warmer. Motion in mass has ended in the fine vibrations recognized by the brain as the sensation

heat. Motion stops when the hammer of a gun strikes the percussion cap, but heat is produced to explode the powder. You strike a light with a match by the heat excited through loss of motion in friction. In every case the heat arising is equivalent to the mechanical motion disappearing.

By vigorous friction of a rubber ruler with a woolen cloth it is made strangely attractive to feathers and bits of paper which leap to it. Motion is here converted into electricity, which is reconverted into the motion of attracted bodies. Likewise in cutting a pine stick the shavings are made so electrical as to separate the leaves of an electrometer. Pass the current of a glass-plate electrical machine around an insulated helix with an iron core, and the motion of turning the winch becomes at first electricity in the plate, and then magnetism in the iron; if sparks are drawn from the conductor, light is a third offspring. To show that the several forms of force—electricity, magnetism, and chemical affinity—are transformable into one another or into other forms, as light or heat or motion, we have but to adapt accordingly the apparatus used in the instances just mentioned. These experiments prove not only their convertibility, but when carefully conducted will probably establish that from a given quantity of one definite amounts of the others will be produced.

The next step in this inquiry takes us into a higher realm of nature, where a more rewarding prospect opens. Though minerals may have exquisite figures, with surfaces as symmetrical and angles as true as the lapidary could have made; though the moss-agate you wear has a kind of internal arrangement, yet these never display a complex framework with peculiar aptitudes. Only plants and animals are built upon such a plan, termed organic, which modifies the operation of force. In the "red snow-plant" all the appliances of vitality are contained in a single sacful of liquid barely discernible with the unaided eye. It appropriates material for nutrition, and reproduces its like within this narrow compass,

where no separate organ can be detected. Our bodies are accumulations of differentiated cells, essentially the same, with a higher inheritance. The cell is the special vital tissue by virtue of which all animate things are enabled to feed, move, breathe, and procreate. As the fabled Orpheus with his lyre compelled stones to dance into architectural order, so a principle resident in organic cells constrains atoms to fall into regular combinations that determine vitality. When the wheat grains were taken by Von Sternberg from a mummy-case they appeared wholly inert, but sown under favorable auspices they expanded into plants perfect after their kind. For thirty centuries these seeds enjoyed no more life than did the entombed Egyptian. Each grain, seemingly lifeless, contained a germ-cell instinct with dormant energies. Buried in a soil generous with heat force, it awaked from its slumber of ages and appropriated the impulses of molecular motion conducted to it. Its store of starch was suitably altered, and then worked up into cells of characteristic shape, which received in turn a heritage of constructive ability. These multiplied so rapidly as to protrude upward and downward from the seed, and thus stem and rootlet were formed. The food laid by is now consumed, but the little plant has an organization which enables it to harness the physical force in the forms of heat, light, and chemical affinity, and by their aid food is collected from the neighboring earth to be elaborated by the subtle alchemy of the cell into vegetable tissue. The part which has pierced the mold unfolds itself, and a new organ, the leaf, is revealed. Up from the humid ground comes the sap to be carbonized in the leaf, where the oxygen, which was united with carbon and hydrogen in the air, is rejected, the other elements being retained to form wood and other structures.

These processes require for their support food from the earth and air, and working stimulus from the physical force. It is not a stimulus merely, for considerable expenditure is necessary to assimilate the nutriment and afterward adjust and

utilize the new matter in the vegetable members. Definite quantities are used in increasing the substance and extending the organization. Emaciation follows the reduction of the proper allowance of force as inevitably as it would the abstraction of food. If absolutely debarred from regular supplies, plants starve and die. No germinating movement stirs the atoms when heat is below freezing-point; but above that temperature, and within certain limits, an exact correspondence holds between them.

In malting barley incipient germination is brought about artificially. The moistened seeds are heated by their own slow combustion, and a forced growth ensues upon every exaltation of temperature. In the soil, sun-heat penetrating to some depth, is the source of development. When the leaves are exposed to the air sunbeams are made to work for every function. When we consider the vigor and the colors of a sun-bred plant as compared with the wan and sickly thing which grew in shadow, we can not escape the conviction that the force which kept up its multifarious workings emanated from the sun. Lack of heat makes the frigid zone nearly barren, while a flora more and more luxuriant delights the senses as we approach the tropics. The short-lived lichen, which amid Alpine or polar snows lends scanty gladness to the sterile aspect of the scene, joins its voice to that of the gigantic palms of the equator, whose existence dates from prehistoric times, to proclaim the entire dependence of the vegetable world upon the three varieties of force bound together in the sunbeam. No violence is done to your judgment then when it is said that not only is a constant ratio observable between the force of mineral matter and the vital force of a plant, but they may be regarded as identical.

In the development of an animal from the embryo relations of cause and effect are observed like those between heat and germination. In an egg are unformed provisions prepared by the parent, and a germ which, when subjected to the heat

of the hen's body in hatching, or that of a regulated oven, divides again and again. Multiplied many times by the operation of this transformed force, these cells, according to a central law, exhibit diversified qualities to frame the different parts of the chick. It is not thrown amid the exposures and wants of an independent existence until its organs are fitted for seizing and digesting food.

The after-life is a procession of changes known as growth and decay, during which materials from without are assimilated by a series of motions working in harmony with external force, and maintained by the heat resulting from respiration. A familiar fact is recognized when it is stated that directly or indirectly all animal life is sustained by vegetation. An eternal round of force and matter, set forth in various forms, nourishes the plant at the expense of the earth and sunbeams, the animal at the expense of the plant, and then returns to the earth that which it had lost. A vegetable is like this audience, where I see many assembled for one social object. Though the mass engages attention, each person here has a distinct inner life analogous to the hidden power of tissue elements. The plant has one life; its organized units have another; and as the individuals who hear me live on, though the meeting dies with the occasion, so these proximate units, alive with energy, separate to flourish shortly in the animal sphere. A plant serves as a medium for storing up solar force, which is afterward transferred to the animal. The sum of all the forms of force disengaged in the human fabric is believed to be an equivalent of the force evolved originally by the sun and locked in the atoms of food till animal processes liberated and utilized it. We are indeed "servile to skyey influences," but in other ways than the poet dreamt of; for see how closely in this respect we resemble a steam-engine! It is fed with coal which represents the rich vegetation that long before our time laid by a treasury of sunbeams lavishly spent to-night in the coal-gas which illuminates this room,

the fire that glows upon the hearth, and the furnace-heat that drives many an engine over land and sea. We are nourished at last from the magazine latent in the vegetation of our epoch. Air is furnished to both, to the furnace and to the man; and from the reactions between air and the combustible material of food and fuel, heat is begotten to do mechanical work or carry on the functions of life. In respect to its periodical renewal Liebnitz likened the human body to a flowing river; Cuvier compared it to a whirlpool, where substances were spun about for a while, giving place to other whirling parts; Helmholtz sees a more exact analogy between it and the steam-engine, and his calculations inform us that the human machine is a more perfect instrument for *mechanical work*, realizing, as it does, more of the motor energy of its food.

It has been said that a bird is a great eater; though it eats but little at a time, it depends upon having the table always spread. Ruskin says of it: "It is little more than a drift of the air brought into form by plumes. The air is in its quills, it breathes through its whole frame and flesh, and glows with air in its flying like a blown flame." What becomes of the force resulting from the combinations of food and air in quantities relatively so prodigious? In the first place, extraordinary heat is developed; while a man's temperature never exceeds in health 99° F., that of a bird reaches 110°. Secondly, mechanical motion is excessive; one weighing twelve pounds will evolve the enormous motor force of one-horse power. The lungs which breathe in the oxygen and the blood which circulates it, the nerve which perceives, the brain which commands and the limbs that obey, the stomach which digests and the chyle which revivifies, are indebted to the varied play of solar force, the mainspring interacting with their functions.

The microscope has resolved into nothing the line of structural difference once drawn between plants and animals,

and the new departure of physiology finds but one fundamental basis to the life of man and that of the hyssop on the wall. An essential unity exists in the nature of the animating principle of a stone, of the lowly plant of a day, and of the proud being who has received from their Artificer the ability to comprehend these high questions that "stand up like church-spires 'mid village cots." The circle of creation has man at the topmost part of the unbroken line. He alone, like the eagle that kindles his eye in the beams that veil the awful splendor of the sun, can catch from the center of intellectual light, through the glory of His works, the radiance of reason. The history of the animating principle is now an open book that confirms a belief in one creative mind, and does not conflict with an instinctive feeling of immortality when it puts down vital phenomena under the heading of material motions.

It is a custom of long observance that he who, in the name of the faculty, bids you welcome should also deliver some precepts upon the ethics and aims of a student. Having introduced you through the Gate Beautiful of physiology into the Holy City of medicine, the best advice as to conduct that I could give is, take as your exemplar the honored teacher but lately removed by death from this field of usefulness and renown. One who as pupil, co-worker, and friend knew him well shall in eloquent eulogy recount the story of his lofty life.

He to whom our dead friend bequeathed his mantle shall worthily wear it, but those of you who have associated with Prof. Bayless will often in your wayfaring miss him whose temper, so earnest, was ever cheerful; whose undaunted spirit attended like a loyal servitor upon his sober judgment; whose faculties, so finely poised, were held in constant adjustment by an intellect comprehensive and tranquil. Who that loves the pure and true can forget him who wedded dowerless Truth for her own sweet sake, and remained faithful through

weal and woe? His old students, sitting in the halls that for years have echoed to his well-told wisdom, shall long for "the sound of a voice that is still." Not in vain has he lived among us is the feeling of a large community whose gayety was lately beclouded by his death. Not in vain has he given to us his best brain-work is the testimony of physicians all over the land, who caught up for further use the fruits of his experience. The good that he has done lives after him. We can embalm in our memories the precious body of his teachings, while we emulate the course that made him a leader of medical opinion, a skillful healer of disease, a loved kinsman and friend.

EPITHELIAL CANCER OF THE COLON.

BY S. LITTELL, M. D.

The following case, which was seen at different times during its progress by several of the most distinguished physicians and surgeons of the city, is interesting chiefly from the obscurity of its diagnosis. Its true nature was revealed only by the autopsy.

E. L. C., aged forty-nine years, of small stature and slender form, married and the father of six children, complained of pain in the left dorsal region, constant in its character, but unattended at first with any considerable constitutional disturbance. During several months there was no external sign of the mischief which was evidently going on within. The bowels acted as usual, the renal secretion was unaffected, and the deep-seated pain, often very severe, was almost the only symptom on which an opinion of its nature could be predi-

cated. As the disease advanced the pain extended downward into the left iliac fossa, and there was also some limping in the walk, evincing probable implication of the psoas and other muscles. An abscess was of course deemed probable; but it did not possess all the characteristics either of lumbar or of psoas origin, though its possible foundation in caries of some of the lower dorsal vertebræ was not overlooked. Calculus in the substance of the kidneys and cancerous degeneration of that organ were also suggested; but these were mere conjectures, unsupported by any particular evidence. A hardness and tumefaction, which had for some time been noticed, at length became more distinctly perceptible posteriorly, a few inches to the left of the spinal column; and the swelling gradually increasing, the apex was finally opened, discharging a large quantity of very fetid matter. Great relief followed this evacuation; and for a brief space there even seemed to be an attempt at reparation, as there certainly was some improvement of the general health. He regained, in part at least, his appetite and spirits, and visited the sea-shore with hopes of still further amendment; but these unhappily were soon dissipated by the occurrence of signs denoting the existence of perforation of the colon. At this juncture, his attending physician having gone to Europe for the benefit of his own health, he was seen for the first time by the writer. The perforation was manifested in the beginning by the escape of flatus, and afterward of fecal matter, through the external opening. This continued and increased until eventually all the contents of the intestines passed in that direction; nothing finding its way, or only in small quantity and at long intervals, through the rectum. Long time before this, however, the system had begun to sympathize with the local disorder. Hectic fever supervened, the emaciation became extreme, and worn out by suffering patiently and heroically endured, the poor fellow found relief in death about a year after he first came under treatment.

The autopsy revealed adhesion of the colon to the abdominal parietes at a point nearly on a line with the upper margin of the kidney, perforation of the bowel, penetration also of the peritoneum, and an abscess caused by the extravasation of fecal matter between the peritoneum and the integuments, extending downward through the intervening cellular tissue into the left iliac region. The transverse colon had apparently fallen or been drawn down near its curvature, and was likewise adherent at this point; the series of morbid changes furnishing a striking instance of the restorative efforts of the *vis medicatrix*. The perforation was produced by a malignant affection of the mucous membrane of the intestine, consisting of dark-colored, soft, fungus growths; the largest of them about the size of a small mulberry (to which it was not unlike), melanoid in character, and, as was proved by microscopical inspection, of indubitable cancerous nature. Several of these excrescences of smaller size were scattered at irregular distances along the transverse arch of the colon; one, situated a few inches above the adhesion, had also proceeded to perforation at its base, but the opening being small—only admitting the introduction of a probe—had not yet been followed by extravasation.

A brother and sister of the patient had died of what was supposed to be cancer of the stomach and bowels; and a female relative of the family, though not in line of direct ascent, had likewise fallen a victim to the disease; circumstances which, had they been earlier known, would have afforded a clearer insight into its pathology.

PHILADELPHIA.

Vol. VIII.—18

AN ADDRESS ON THE LIFE AND PROFESSIONAL CHARACTER OF GEORGE WOOD BAYLESS, M. D.,*

BY RICHARD O. COWLING, A. M., M. D.,

Professor of Surgical Pathology and Operative Surgery, University of Louisville.

MR. PRESIDENT, LADIES, AND GENTLEMEN:

A month ago, when the first note of preparation for the preliminary term of the present session had sounded, when each man's work and station had been assigned him, while we were watching for the return of one upon whom in times past we had relied so much, we received the sad intelligence of the fatal stroke which had befallen him, and that his place among us was to be forever vacant. A leader in our ranks had fallen; a light in our profession had gone out; the heart of a true friend was still. Well might the University of Louisville bewail the loss of one who had done so much to make her history; well might all who value truth and nobility lament that such a representative of these as Prof. Bayless had been taken from us.

I thank you, gentlemen of the board of trustees and of the medical faculty, that in the resolutions by which you sought to express your sorrow you appointed me to deliver to-night this address upon his life and professional character. Much did I wish, however, that one who had stood longer by his side, one far abler than I to do justice to his memory, could have accepted the task; but I feel that no one could appreciate more keenly than myself the character I am asked to depict; and though the tribute I offer be imperfect, it will at least be the sincere expression of one who was a grateful pupil, a loving friend, and an admiring associate of him who now is dead.

* Delivered, October 6, 1873, at the request of the Trustees and Medical Faculty of the University of Louisville.

George Wood Bayless, the son of a merchant of Mason County, in this state, was born at Washington, the county-seat, in 1816. His parents, who in his early life were in easy circumstances, gave him the best education within their reach. Intended at first for mercantile pursuits, he entered when quite young the business-house of a relative, Mr. Abijah Bayless, in this city; but he soon abandoned the idea of trade and returned to his home, where his education was resumed. He finished his academic life at Augusta College, where for two years he received the instructions of the celebrated Bishop Bascom. His family in the meanwhile had met with reverses in fortune, and it was at personal sacrifice, especially upon the part of his mother, that his academic and subsequent medical education was carried on. I allude to this here because the memory of this devotion never left him during life. Reticent as he was by nature, he often spoke of it, and the remembrance of it perhaps had much to do with forming a filial piety which was well-nigh perfect. That the foundations of his education were well laid no one could doubt who heard the purity of his language and knew the cultivation of his tastes.

He commenced the study of medicine in the office of Drs. Taliaferro and Marshall, then of Washington, at later life practitioners of eminence in Cincinnati. After a year's pupilage under these gentlemen he entered as a student in the old Medical Institute of Louisville, which afterward grew into our present Medical Department of the University. This was in the fall of 1837. It was the year of the real birth of the school, when, after the disruption of the faculty at Lexington, Cook, Caldwell, and L. P. Yandell, sr., joined with Cobb, Miller, and Flint to form a corps of instructors seldom equaled in the annals of medical teaching in this country. It was of course not strange that they should have made a powerful impression upon so appreciative a mind as that of young Bayless. In his introductory address to the class

of 1866-7 he beautifully records his admiration for his teachers; but favorably as he regarded them upon the whole, he did not attend a second session at the school. The reasons I have heard him give were that, even with his inexperience, he felt that the doctrines of practice which then emanated from the school could not long prevail, though so brilliantly taught and so universally accepted. Wishing to hear another side of the question, in the autumn of 1838 he matriculated at the University of Pennsylvania, in Philadelphia. He was graduated in the following spring, and added one more honorable name to the long roll of that ancient mother in medicine.

He spoke but seldom of his student-life. The daily routine, faithfully followed as I know he followed it, offered but few incidents for the mind to recall. "He was," says his roommate while in Philadelphia, "an earnest student, attentive to all his duties, methodical in his ways. Just as he was in later life, so was he in the beginning. His character was early and fully formed."

Of the faculty of the University, comprising at that time Wood, Gibson, Jackson, and Chapman, Wood was the one of whom he oftenest spoke. His polished manner and varied learning made a deep impression on him; but a greater link between them, I believe, was their common love for botany and flowers, which through life with Prof. Bayless amounted to an absorbing passion.

He commenced the practice of his profession in this city immediately after graduation. With an exceedingly youthful appearance, and with slender means, more than the ordinary struggles of the young practitioner awaited him. "I was very poor," I heard him say, "but I was determined at the outset that my poverty should not be a temptation for me to form any associations which for temporary advantage might injure my permanent welfare;" a resolution he faithfully kept through life.

He spent much of his leisure time, which was ample, in the wards and at the clinics of the city hospital. Since his studentship in the medical school of Louisville Daniel Drake had replaced Cooke in the chair of practice. Dr. Bayless early attracted the notice of this distinguished man, and a lifelong friendship sprang up between them. It had much to do with the shaping of his subsequent career. Greatly through Prof. Drake's influence he was elected to the demonstratorship in the college, when a vacancy occurred in that department, one year after his entrance into the profession. This position he held for eight years, and it was the period of his life to which he referred with the greatest pleasure. His subsequent elevation to the chair of surgery, to which he had for years aspired, did not give him half the pleasure as that of his first triumph.

He had early been devoted to anatomical studies. In his "Reminiscences," to which I have alluded, in speaking of the fact that the college at the time he was one of its students was in the old alms-house, which was under the same roof of the city work-house, he says: "Many a time and oft have I found myself in the wee small hours of the morning pursuing my anatomical studies alone by the light of a tallow-candle, with the clanking chains of refractory prisoners as the only music to cheer my solitary work." But attractive to his tastes as was the field thus thrown open to him, it was a trying position for one so young. A chief reason urged for the establishment of a school at Louisville to compete with the one at Lexington, already in the full tide of fame, was the superior advantages offered by a populous and growing city for the study of anatomy. This assertion Dr. Bayless was expected to make good; and while just a man in years, and to all appearances a boy, he was intrusted with duties considered of vital importance to the school, and was to take his stand among men every one of whom had already written his name high in the annals of medical teaching.

His first essay as a lecturer was in a course upon visceral anatomy, given at the suggestion of Professor Gross during the preliminary term of his second winter in the school. It was prepared and delivered with all the ardor of one thirsting for success, and no work in his life did he ever recall with more satisfaction than he did this. How well Dr. Bayless fulfilled the trust which had been reposed in him the hundreds who received his instructions are his witnesses. Their universal testimony is to his thoroughness and ability.

He gave himself up almost wholly to his duties in the school. His office required him also to be a curator of the museum and prosector to the chair of anatomy. "I spent eight years," he says in his reminiscences, "upon the opposite side of a dissecting-table with Prof. Cobb," as perfect a master in dissections as this country has ever produced. It was a magnificent school for the young demonstrator, and he improved it to the utmost. I never saw his superior—seldom his equal—in the use of the scalpel. Around me now are those who can bear witness of how he enriched our museum with his skill. He extravagantly admired his anatomical master for his skillfulness in dissections, his industry in making anatomical preparations, and for his gracefulness and ease as a lecturer; but he found fault in him—that he never looked for design, had no thought for philosophy. These were ever uppermost in Prof. Bayless's mind.

His studies were not confined to the anatomy of the dissecting-room. He seized every opportunity for pathological investigations, and worked well at histology. In his private classes he taught too for years all the branches of medicine. Nor did he confine himself to purely medical topics. He studied comparative anatomy and made himself conversant with vegetable physiology. He was familiar with the use of the microscope long in advance of his times in this section. Had choice been left him, I heard him say, he would have devoted his life to the natural sciences. Toward the end of

his demonstrator's life he delivered a course of lectures upon vegetable physiology, "which," says Prof. Bell—certainly no mean judge in such matters—"showed him a perfect master of his subject." He made valuable discoveries in the flora of this country, and as a horticulturist received public recognition of his ability and tastes when the city of Louisville appointed him among the first trustees who had in charge the beautifying of the grounds at Cave Hill.

I have dwelt long upon this portion of his life because it was the period of his preparation, and made him what he was. In later life, when the cares of an extensive practice and of his material interests drove him in a measure from his books, these were the sources from which he was deriving his information.

In the eighth year of his demonstratorship, when the school was in the full tide of success—his classes more numerous perhaps than those of any demonstrator in the Union—his failing health required him to resign his arduous position. He went with Dr. Drake to Cincinnati, and occupied for two years the chair of anatomy in the Medical College of Ohio. He had also purchased a farm in Western Missouri, and devoted the interim between the sessions of the school to its cultivation. But the arrangement of living in one state and lecturing in another did not work well; so he retired from the school and resided permanently in Missouri.

Although during his residence in the West he was withdrawn from the active duties of his profession, he continued to act as a consulting physician and did such surgery as offered. Several of the gravest and most successful operations of his life were performed during this period. The growth of his family and the lack of educational advantages brought him again to Louisville in 1857, when, with health restored, he resumed the practice of his profession. Called during the first year of his return to the chair of physiology and pathology in the Kentucky School of Medicine, he filled

it with great credit till the temporary disruption of the school at the breaking out of the war. It was his extreme desire then to lend his surgical aid to the army of the Confederacy, in which he had an offer of a commanding position, but which the claims of a large and dependent family forced him to decline. He obtained permission, however, to pass the lines, and was present with the wounded after the first battle of Manassas.

In 1863 he was elected to the chair of physiology in the University of Louisville, which he occupied for two years. At the death of Prof. Palmer, in 1865, the chair of surgery became vacant, and for this he became a candidate. It had been the ambition of his life to fill this chair. He had striven to educate himself for its duties during more than a quarter of a century; and although he felt that his claims upon the position were almost paramount, I know that he was willing to waive them for what he considered the good of the school. But the arrangement he had in mind could not be effected, and he entered upon his long-wished-for field.

The rest is soon told. During five years he was permitted to gather the fruits of his grand preparation; and then when his experience was ripest, when his powers were greatest, when seemingly in the fullest of health and vigor, looking forward to years of work and usefulness, he received the first sharp notice that the end of his labors was near at hand. He recovered somewhat from this his first stroke, and with a winter's rest appeared once more in the amphitheater which we hoped with duties lessened he might continue to adorn. But it was evident to those who knew him that the stroke had been graver than we wished to believe. The same perception of truth remained; the same beauties of diction were at his command; but the incisive manner was somewhat lost, and the voice which of old was so clear and ringing would sometimes falter. And so, though we heard from time to time during the past summer that with the invigorating air

of the mountains in Eastern Kentucky, where he had sought repose, his health was returning, pained though we were at the tidings that his end had come, we felt that it was our hopes and not our expectations which had not forewarned us. When he recorded of his bosom friend, the philosopher Drake, that "when death came upon him he attacked him in his most splendid part, the brain," he was writing his own end. So too had fallen the classical Flint, and the lips of the eloquent Palmer been sealed forever.

Though he died upon the opening day of this preliminary term, upon the eve of his return to his much-loved duties, for which he had striven during preceding months to prepare himself even better than of old; though his heart yearned to be once more in the midst of active and useful life, the closing scene could not have been fitter. He was returning from the search of wild flowers in company with his youngest child. As he descended the mountain-side, when within sight of his family, whose anxious eyes were ever upon the outlook for his coming, he sank to the ground. Though death was delayed a few hours, the last sight he saw on earth was the grandeur of that nature he had worshiped through life, her beauties within his grasp, and the forms of his loved ones around him.

So closed a life which, if not filled with stirring events, was marked from first to last with the faithful performance of duty. In seeking to make an estimate of his character, I can not separate that which was professional from that which was personal. His commanding trait was certainly great integrity. To say that he deceived no man—that dishonesty of word or action could never be laid at his door—would be but a poor expression of his uprightness. He was the embodiment of truth. The fullest of his perceptions of it he strove to illustrate in his life. "Why should not men be true," I have heard him say, "when it is so easy? Truth is in the eternal fitness of things, and flows along so naturally,

while deceit and error jostle against every thing they meet." And he was fitted by nature to be a defender of this jewel. He was a brave man—morally and physically brave. With thoughts and feelings thoroughly under control, he rarely had a foolish impulse to regret, an unguarded expression to retract. When he took his stand he was inflexible. No flattery, no cajolery, no temptation of interest could swerve him from what he considered the path of his duty. He postponed no difficulty; he never sought by double-meaning phrase to leave a door for escape. No man of ordinary intelligence ever left his presence without a full perception of the meaning he intended to convey; and no one had dealings with him who did not learn that by his word he stood. I do not mean to convey the idea that he engaged in a foolish knight-errantry for the cause of truth; that he considered he had a mission to reform men, or to bring them to his own ideas; that he passed his life in endless contention. No man more strictly confined his attention to his own affairs, or could more gracefully yield where principle was not involved.

That one so decided in his character should have had difficulties and have made enemies is not strange. He lived through trying times in his profession, through the bitterness of the school-fights, through the jealousies roused by his increasing fortune, as he rose from poverty to easy circumstances. Through all these he pursued his way quietly toward his ends, which he generally achieved. And as no murmur ever escaped him in defeat, so never did he utter a shout of victory. Whether he won or lost, the same calm exterior was over all. His reticence was wonderful. While the buzz of his adversaries and their partisans was loudest, he seemed either not to hear it or treated it as the idle wind. Recrimination was a word of which he knew not the meaning.

When I said he was physically brave I did not mean he was a hero in personal rencounters. The refinement of his

nature shrank from the brawl. The decision of his character, his sense of justice, and the politeness of his manner even when most severe, won his battles without such coarse display. And there was something in those steady blue eyes, and in that well-knit frame, small though it was, which was not inviting to such an appeal.

He lacked personal magnetism which wins at once. With the crowd his manner, while not austere, had that quiet dignity which forbade all familiarity. I think it was frequently misunderstood; and men who either had not the occasion or wish to know him further gathered an impression of his coldness, or even selfishness. Enthusiastic he certainly never was, but he was no adamant man—a machine that thought and acted and did not feel; one so full of the virtues and free from frailties as to make him uncompanionable for this wicked world. Friends he had in hosts, and if he gained them slowly he held them firmly. The companions of his boyhood were his friends through life. He had no suspicion of human nature. He would have deemed it an imputation on his self-reliance. He loved the companionship of his kind. Not a day passed that at his hospitable board there did not sit many besides his own, nor a night when his friendly roof did not shelter others. And he shone in social life, not by brilliant and showy manners, but his intelligence, his frankness and candor, and the sympathy which then warmed in him made him a companion for young and old. Reticent too as he was with the world at large, there was an inner circle of those he loved, where he poured out his joys and sorrows, his hopes and fears, with the simplicity of a child.

That he strove to increase his fortune, and did increase it, was no sign of selfishness. He grasped nothing. He claimed his own, and never did he believe he encroached upon the rights of others; and with his own few stewardships will stand better than his. When I spoke just now of

his rising from poverty to easy circumstances independence was the word I had first chosen, but independent he ever was. Trained early in habits of business with a spirit of self-reliance and the warnings of adversity, debt he abhorred, obligation he avoided. Whatever might have been his means he forced himself to live within them. He deemed it not only weakness but positive injustice to exceed these bounds. Little did it require for his own simple tastes, but to those who had claims upon his bounty he freely gave. Do I violate propriety if I lift for a moment the veil from yonder household; if I point to that happy home where he was best known—where a kind and indulgent father and husband ruled so orderly and so easily—where loving hearts looked up to him with gratitude and respect—more of which the patriarchs of old did not receive; and though he deemed his own blood first upon his claims, though he spoke but little of aid and sympathy spent elsewhere, he had his share of these to do, and did it manfully and well. How many thought him good and true let the bowed heads in yonder church declare; and the flowers which freshen daily upon yonder mound shall tell how fragrant is his memory in the hearts.

For his profession he had the most unbounded respect. He used to say it was a priesthood with responsibilities as grave as those of any other. In his farewell addresses to his classes this was always the theme upon which he dwelt, that it was not the only part of medicine to recognize disease and to give physic, but they were to remember how sacred were the relations between their patients and themselves. This he never for one moment forgot. With him, as some one has expressed it, "the genius of medicine is dumb, standing with finger upon her lips in token that nothing that the eye or ear received should ever pass their portals." Surely no secret ever was confided to that breast which is not safe till the judgment. But it was not alone upon this virtue of

secrecy, so common to his profession, that the respect with which he was regarded by his patients was built. He impressed them with his manly qualities not less than with his skill, and many a one has he ministered to whose complaint was not bodily.

As he regarded medicine as high a vocation as any man could have, he claimed from it proper returns; and in his dealings with his patients, while he did them proper justice, he never forgot what was due to his profession.

With his professional brethren he ever wished to be at peace. He had such respect for medicine that he believed that any one who followed it was naturally respectable, and was slow to be convinced to the contrary. Jealousy he either did not have or effectually concealed it. He seldom discussed doctors, but when he did he expressed his admiration freely when he felt it; and while he was not afraid to denounce if he thought he had cause, he could be just even to an adversary. The mistakes or discomfiture of a brother gave him no pleasure. Gossip, and especially professional gossip, he despised. He seldom listened to it, never repeated it. To his juniors he was ever considerate.

As he was respectful, so did he always expect, and if necessary could command, respect. I utter at least an honest belief when I say that never was a physician in his professional intercourse more upright than he. Never did one observe the proprieties of the code which governs doctors more strictly; and this he did not from any fears of penalties imposed, but because his every action was dictated by his natural instincts as a gentleman.

When the news of the death of Dr. Bayless reached Prof. Gross, he said: "My intercourse with him was constant and cordial. A more amiable, kind-hearted, upright, honorable man I never knew, either in or out of our profession. As a teacher he was highly popular and instructive; as an officer, agreeable and faithful. He knew not what it was to neglect

a public or a private duty. His intercourse with his professional brethren was marked by the nicest sense of honor. The death of such a man at comparatively an early age is a public loss."

As a practitioner of medicine he was attentive and eminently safe. He rode no hobbies and had no pet theories he wished to prove. His practice was built on broad principles as he had learned them and as his experience had proved best. He did not have infinite respect for the last journal—was indeed slow to believe the wonderful reports of ephemeral writers; but no one could say he ever became antiquated in his views. The foundation of his knowledge had been too solid for that. He took a grave view of disease. He thought sick people needed help; but while he was often anxious he was none the less confident in his powers. He had little to say in the sick-room. His examinations were soon made, and his pharmacopœia eminently simple; he was not a strong believer in drugs.

Surgery was the field which was most in accordance with his tastes, and from it, had he had choice in the matter, he never would have deviated. The bent of his intellect inclined him toward this department of the profession. With his practical nature he was slow to follow theoretical reasoning—quick in that which was demonstrative. The training of his professional life too had been in this direction. To the last he was an accomplished anatomist and pathologist. His quick eye ever momentarily detected every tissue and part he invaded, no matter how changed in relation.

In his practice he aimed always at conservatism; and when he had declared for the knife he was one of those who, if circumstances allowed, always prepared his patient. In his methodical way he provided for every exigency; and whether the operation was to be simple or grave, he considered it well beforehand, and thoroughly planned its steps. He believed with Sir Charles Bell, whom he used to quote in this con-

nection, that the patient was entitled to every chance; that no matter how often the surgeon might have repeated an operation, he should, if opportunity offered, practice on the dead beforehand what he was to attempt on the living. This extreme caution to one who did not know him thoroughly might rouse a suspicion of timidity, but there scarcely could have been a greater mistake. No man was ever more at home in an operation. After he had begun there was no hesitation, no timid incisions, no halting to take counsel. Unappalled at any danger, familiar with where he was going and what he was doing, thoroughly and rapidly he finished his work. No one could look upon the bold strokes of his knife, could witness the rapid and clean dissections, and not see in them all a master's hand. Few men were his equals as an operator.

He was a conscientious surgeon. He decided entirely for his patient's benefit. He took no thought for himself in the matter. If he considered that any chance for relief, however slender, lay in the knife, it never entered his head to think, or at least to care, that he would suffer by any mischance that might happen. While I believe he sometimes overestimated the powers of his art, I know of lives he preserved, by lucky chance perhaps, which surgery had condemned to die. But whatever was the issue he accepted its full responsibility, and with his characteristic candor never sought to conceal or to palliate an unsuccessful case. Remembering only such, however, a cry at one time arose that he was "unlucky" in his results—an opinion which some of his professional rivals and non-professional enemies "would not willingly let die." Fortunate would it be for humanity and for our art were all the annals of medicine as honest as those he contributed.

Though his experience in surgery was large, unfortunately but a small amount of it has been recorded. Strange, with his methodical habits, he neglected note-taking as he did.

Some of his work is preserved in the journals and text-books, but it represents but a small portion of what he did. Yet he was an extremely correct and facile writer. His addresses, which are almost the only examples of his literary composition, are written in the purest English, though, as I know, they were rapidly composed and scarcely revised.

In the lecture-room Prof. Bayless was thoroughly at home. I am sure it would have surprised any one who knew him only elsewhere to have heard him there. While as a conversationalist he could be interesting and graceful, he was never voluble. He was rather an "eloquent listener." A plain and sensible lecture might have been expected of him, but one could scarcely be prepared for the discourse he would hear. Clearly enunciating his propositions, he pursued his theme with method and ease and vigor. Every syllable was pronounced, every word was well chosen and without the slightest hesitation. Commencing in a conversational tone, he rose with his subject until at times he became impassioned. His voice was full and clear, and over its modulations he had complete control. One could not help but wonder where this quiet man obtained such arts of oratory.

He had notes of his lectures, but seldom referred to them, and frequently altogether neglected them. Their purpose was rather to refresh his memory, and to fix the order of the discourse upon his mind before he began to speak. He was an original lecturer, and drew largely upon his experience for illustration, but never with an air of display; in fact, he thought his simple duty was to teach surgery and forget himself entirely. He aimed always at a demonstrative style, without which quality he thought all lecturing was a farce. Students easily followed him. They gave him the respectful attention always due and generally paid to dignity and worth, and could not help comprehending principles which were so orderly and so clearly explained, and so thoroughly driven in. Says Prof. Bodine, "*He could not say a foolish thing.*"

Says Prof. Bell, who had heard him in the several branches he had taught, "In each one so much was he at home that you would say that this above all others was his field."

It was in didactic lectures that Prof. Bayless appeared to the best advantage. In clinics he did not do so well. He was not a good hand to build up a large attendance of patients. If proper cases presented themselves, and especially if operations were to be performed, he did as well as any one; but if the material was poor in the wards or out-practice, he was not so successful in filling his hour. He could not magnify small things. He stuck faithfully to his text, and if this was unimportant he soon exhausted it.

The standard of his examination of students was always pitched high. He was considered, and rightly too, a hard man to pass before. He occupied the time allotted him in rigid questioning of the candidate's knowledge, and voted faithfully for his rejection upon any doubt as to his efficiency. No man guarded more conscientiously than he the portals of his much-loved profession.

All in all he was a worthy compeer of the illustrious men his native state has furnished to the ranks of medicine—a worthy successor of the illustrious surgeons who preceded him in his chair. Surpassing him in some qualities perhaps, in truth, in dignity, in soundness of learning he was in every way their equal.

Gentlemen of the board of trustees, the commission you gave to Prof. Bayless years ago, and which now is returned to you by the hand of death, was fitly placed and worthily worn. Under its authority the best interests of the school of which you have charge and the cause of humanity were furthered. No link in our history is stronger than the one he made. As the tidings of his death shall spread to the hundreds—nay, thousands—who have heard his teachings, they will say with sorrow, "There fell an honest man," and with pride remember that he was their master.

Gentlemen of the faculty, a friend and counselor has been removed from you whose sympathy and wisdom you long will miss.

Gentlemen of the class, fortunate for you had it been could his half-finished work have been brought to a close. But as the historian of the ancient Germans has recorded, when their brave men fell they considered the most manly tribute to be offered was remembrance and not regret. Let his manliness, his dignity, his truth live in our hearts. Then happy he who when night comes can scan the day that is past and say it was as well spent as his.

TOPICAL REMEDIES IN DISEASES OF THE THROAT, NOSE, AND EAR.

BY THOS. F. RUMBOLDT, M. D.*

The usual solution of common table-salt—one drachm to the pint of warm water—I have found on the whole to be the best agent for mere cleansing of the nasal cavities. When the secretions are abundant the solution may be applied in spray or by the catheter nasal douche; but whichever mode is adopted the work of cleansing must be *thoroughly done*. This is essential. The salt solution, however, is a cleanser only; it does not deodorize. Where ozena is present a solution of bromo-chloralum, of a strength varying from two drachms to one ounce to a pint of tepid water, used by means

*The St. Louis Medical and Surgical Journal has recently contained several articles from the pen of Dr. Rumboldt, calling attention to certain improvements which he has made in the instruments used for the application of remedies to the throat, ear, and nose. Such of our readers as are interested in these matters are referred to our valued contemporary, where the instruments devised by Dr. R. are beautifully illustrated on wood.—EDS. AM. PRAC.

of the catheter nasal douche, as often as may be necessary to correct fetor, is perhaps the best application. The most offensive case is usually relieved by it, at least for a time.

For four years past I have given carbolic acid the first place among local measures for the treatment of both acute and chronic inflammations of the mucous membranes of the cavities under consideration. I use it as follows:

R. Crys. carb. acid, ʒj-ʒij;
Glycerine, ʒj;
Water, ʒvij. M.

Throw on the diseased parts, by the spray apparatus, from half a drachm to two drachms of this solution every other day, or daily if necessary to control the secretion. If the nasal douche be used, the carbolic acid must be in only one fourth or thereabouts of the quantity given above, or of a strength which when applied will produce but a slight smarting sensation, lasting for a few moments only, and should, if properly used, be followed by an evident sense of relief. At the suggestion of my friend, Dr. Wm. S. Edgar, of this city, I began using a year ago a solution of the extract of *pinus canadensis* in such chronic cases of disease of the cavities under consideration as were attended by excessive secretion. By adding from half a drachm to two drachms of the sol. extr. of *pinus canadensis* to eight ounces of the carbolic-acid mixture, I have obtained a very valuable combination where an astringent and local tonic were required. The fluid extract of *geranium maculatum*, when one drachm be mixed with eight ounces of the carbolic-acid solution, constitutes an efficient astringent, but should be dispensed with as soon as the secretion has been controlled. The tincture of *calendula officinalis*, one ounce to eight ounces of the carbolic-acid solution, is useful in certain cases of subacute catarrh of the pharynx and pharyngo-nasal cavity. The tincture of aconite root, half a drachm to eight ounces of the carbolic-acid solution, I have found useful in pharyngitis

accompanied by great pain, but without much swelling or secretion—cases of local hyperæsthesia. As soon, however, as the pain ceases the aconite should be omitted, lest it produce unpleasant constitutional effects. The muriate of ammonia (one drachm to eight ounces of water) is especially valuable in cases attended by a varicose condition of the vessels of the pharynx and larynx, attended either by copious secretion or the reverse, a dry and glazed condition. The remedy should be suspended as soon as the secretions of the parts are regulated, as I am sure I have seen it develop new throat troubles when too long continued. Chlorate of potash has not in my hands sustained its reputation in the treatment of nose and pharyngeal diseases. It sometimes yields good results in acute states, unattended by much swelling, but accompanied by excessive secretion. But it is not only of no benefit where ulceration is present, but is positively injurious. The sulphate of copper (fifteen to twenty grains to one ounce of water) I regard as superior to nitrate of silver in favoring healthy granulation in phagedenic ulceration; but previous to its application with a brush or sponge the parts should be thoroughly cleansed with the spray of muriate of ammonia; the carbolic-acid spray should subsequently be used in order to allay the pain produced by the blue-stone.

ST. LOUIS, MO.

Reviews.

Chemistry: Inorganic and Organic. By CHARLES LOUDEN BLOXAM, Professor of Chemistry in King's College, London, etc. With two hundred and ninety-five illustrations. From the second and revised English edition. Philadelphia: Henry C. Lea. 1873.

The above is the title of a work which we can most conscientiously recommend to students of chemistry. It is as easy as a work on chemistry could be made, at the same time that it presents a full account of that science as it now stands. The progress of chemistry during the present century has been so rapid that text-books have been demanded in quick succession to keep pace with the changes in its aspect. A century ago water was regarded by the chemists as an elementary body. The foundations of pneumatic chemistry had not been laid. Organic chemistry was a *terra incognita*. In truth, the whole science of chemistry has been evolved since some of its cultivators who have just been called to rest from their researches were born. But to-day it exhibits an amplitude of detail which defies the comprehension of any single mind. It is divided into departments any one of which affords matter for the study of a life-time. The student of medicine who comes to the subject for the first time is appalled at its magnitude, and is apt to turn away from it in despair. In the work before us, however, he will find the introduction to the study so clear that he will advance in the science with comparative ease. The author has adopted the excellent method of putting the matter of the highest value in a larger type, by which the reader may escape perplexing details in

his first perusal of the work; and the style in which it is illustrated will greatly facilitate the study of the various topics.

We have spoken of the work as admirably adapted to the wants of students; it is quite as well suited to the requirements of practitioners who wish to review their chemistry or have occasion to refresh their memories on any point relating to it. In a word, it is a book to be read by all who wish to know what is the chemistry of the present day.

Pharmaceutical Lexicon: Designed as a Guide for the Pharmaceutist, Druggist, Physician, etc. By H. V. SWERINGEN, Member of the American Pharmaceutical Association, etc. Philadelphia: Lindsay & Blakiston. 1873.

This is much more than a lexicon of pharmacy, but contains besides formulæ for officinal, empirical, and dietetic preparations, selections from the prescriptions of the most eminent physicians of Europe and America, an alphabetical list of diseases and their definitions, an account of the various modes in use for the preservation of dead bodies for interment or dissection, tables of signs and abbreviations, weights and measures, doses, antidotes to poisons, Attfield's saturation tables, a table of boiling-points of various substances, chemical formulæ, atomic weights of elements, specific gravity of solids, liquids, and gases, a table of pharmaceutical equivalents, the atomic theory, and various miscellaneous tables. One would have to look far for a volume containing so much matter which physicians wish occasionally to command but can hardly hope to retain in their memories. It is therefore one which is likely to grow rapidly popular. We have seldom met with a work which it would be so convenient to have always on one's table as a book of reference. From the list of matters of which it treats the reader will perceive

that there is hardly a topic in pharmacy, or one relating to the diet of the sick, respecting which information valuable to the practitioner may not be found.

The author has appended to his pharmaceutical dictionary and many valuable tables a chapter from the "New London Dispensatory" of Wm. Salmon, M. D., published in London in 1676, which will arrest the attention of every reader, first as a literary curiosity, and then as illustrating the progress of pharmacy in the last two hundred years. The preface of this old London physician shows that he was beset by carping critics in his day, and that he knew well how to reply to his assailants. "There are," he says, "some half-witted Animals abroad who (envying our reputation) would persuade the world that our works are only collections out of others, and that we have done nothing but what was done before." To which he replies that such "idle drones are beholden to him for his labor and pains herein, and ought rather to give him thanks for his care and trouble than to carp against him for that which their crazy pates can neither mend nor imitate. All the hurt we have done them," he continues in his sarcastic way, "is to gather much into little, and to save them the charge of buying and the labor of reading (if they have learning enough to read) the many and vast volumes of the ancients; thereby giving them more time to spend at their cups, and greater leisure to fortify their empty noddles against the prevailing forces of sloth and ignorance."

Mr. Sweringen has "gathered much into little" in his Pharmaceutical Lexicon; and though he may hardly hope to be addressed in such lines of panegyric as were written on the book of the learned Salmon,

*"An ego splendenti præberem lumina soli?
Aut pelago guttas addere coner amens?"*

we can promise him that the critics will never be angry with him for bringing treasures from so many sources, but will

heartily applaud him for the care and trouble which has resulted in a volume so truly valuable.

A Manual of Medical Jurisprudence. By ALFRED SWAINE TAYLOR, M. D., F. R. S., Fellow of the Royal College of Physicians and Professor of Medical Jurisprudence in Guy's Hospital. Seventh American edition. Revised by JOHN J. REESE, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Philadelphia: H. C. Lea. 1873.

Nothing could testify more satisfactorily to the popularity of this work than the fact that in a few years it has passed in this country through six editions, while eight editions of it have been issued in England. As now presented to the public it has claims to regard over all the former editions in having been much extended, and so brought fully up to the present time, by its American editor. From its first appearance it has taken the highest rank among the authorities on medical jurisprudence; nor is it likely to be superseded by any other treatise on the subject so long as it continues to be revised with the care which its author has bestowed upon its successive editions. In the preface to his last edition he states that the subjects have been reduced in extent by the omission of histories of cases, which he has incorporated in a work on the principles and practice of medical jurisprudence. While this omission undoubtedly detracts somewhat from the dramatic interest of the work, it was necessary to keep the volume within convenient limits, and all the facts are retained which the student or the practitioner will need for his guidance in questions of legal medicine.

The volume as now published opens very appropriately with a chapter on the practice of medical jurisprudence, medical and medico-legal duties, the inspection of bodies in death from wounds or poisoning, the use of notes, medico-legal

reports, and dying declarations; which is followed by one on coroner's inquests, examination in courts, duties of medical witnesses, and rules for the delivery of evidence—subjects of the greatest moment to every physician who is liable at any moment to have his knowledge about such matters subjected to the severest test. A want of preparation for these trials endangers the character of our profession. Physicians go into court as witnesses without due investigation, and as a necessary result contradict one another, or are made by ingenious attorneys to contradict themselves. Feuds are thus engendered among the members of the profession, and the force of medical evidence is neutralized by its contrariety.

The evidence afforded by the popularity of this book of the growing taste for medical jurisprudence must therefore be hailed with pleasure by every friend of the profession. It indicates that the study of it is becoming the rule instead of the exception, as was the case a few years ago. A work on medical jurisprudence is coming to be regarded as necessary to every medical library, and there can hardly be a doubt that this conviction will deepen with the advancement of medical science. Dr. Taylor has presented us with a work which affords all the information that a medical witness is likely to require, and imparts it in a manner so pleasing that its study is a recreation rather than a task.

A Hand-book for the Physiological Laboratory. By E. KLEIN, M. D., etc.; J. BURDON-SANDERSON, M. D., F. R. S., etc.; MICHAEL FOSTER, A. M., M. D., F. R. S., etc.; and T. LANDER BRUNTON, M. D., D. Sc., etc. Edited by J. BURDON-SANDERSON. In two volumes, with one hundred and twenty-three plates. Philadelphia: Lindsay & Blakiston. 1873.

This work has been prepared for students entering upon physiological work, of whom the number is yet comparatively

small in America, and for that reason it is not likely to be extensively circulated in our country. Nevertheless we can boast a corps of investigators to whom it will prove a most acceptable guide. It is a book for the laboratory, and will interest physicians only so far as it details the experiments upon which physiological science is based. Divided out among the several authors, the subjects are presented with a fullness that could hardly have been attained by a single author. Histology is treated of by Dr. Klein, who begins with the blood-corpuscles, and treats successively of the various tissues of the body—connective, muscular, nervous, and vascular—and of the organs of digestion and respiration. Dr. Burdon-Sanderson takes up the blood, the circulation, respiration, and animal heat. The functions of muscle and nerve are discussed by Dr. Foster, and Dr. Brunton gives an account of digestion and secretion.

To the teacher of physiology it appears to us that these volumes must be of very great value, indicating as they do the methods by which the facts of the science may be illustrated. Every teacher has experienced how much more attractive the truths of any science may be rendered by addressing them to the eye, where that is practicable, as well as to the ear.

Clinic of the Month.

ANTISEPTICS IN SURGERY.—Prof. Wood, of King's College, in his recent address on surgery before the British Medical Association, remarked that he had the highest respect for Lister's system of treating wounds. On his theory of germs it was consistent and simple enough; but it was as a practical method that it must be estimated, and it was with that view that he had put it as far as possible to the test. He began it when the hospital was in a good hygienic condition, and for that time the cases did admirably. He had some cases quite equal to any described by Prof. Lister. He also tried the application of dry lint, and in many, especially in breast cases, the results were also perfect. He also tried the application of the chloride-of-zinc solution in the manner originated by Mr. De Morgan, and very good results ensued. After about six months a very unfavorable change came into the hospital. Erysipelas and pyæmia began to show themselves. The wounds began to suppurate more, primary healing was less common, and the erysipelatous blush appeared in cases treated in all ways, and almost as impartially on his own antiseptic side of the hospital as on his colleague Sir Wm. Fergusson's non-antiseptic side. But there was little or no putrefaction in any of his cases, as evidenced by the odor, which his eminent colleague, however, attributed to the carbolic-acid smell overpowering all others.

In some cases of psoas abscess treated by Lister's method he had had marked success so long as the hospital remained healthy; but when erysipelas and pyæmia appeared he had others in which the pus in the abscess became putrid and

offensive after the first evacuation under the spray and with all the precautions, and he was obliged to make free openings and introduce drainage tubes through which the abscess could be washed out with antiseptic. Such cases showed the danger of departing from the old rule of providing a free exit for all purulent and offensive discharges, for the want of which the exclusion of air was not a sufficient compensation.

He then alluded to Mr. Callender's paper, and the advantages of cotton-wool, which was preferred to any other dressing, he said, by Mr. Christopher Heath. He spoke of Prof. Humphrey's and Dr. Weil's views. He said that after frequent trials he considered that the readiest, lightest, coolest, and most generally useful application of the antiseptic method was a plan comprising the free use of Chassaignac's drainage tubes passing from the surface of the wound, or from its interior if deep and sinuous, and with their outer extremities imbedded in cotton-wool or oakum well permeated with McDougall's or Calvert's powder, or other disinfectant or absorbant of discharges, the surface of the wound washed over after bleeding had ceased with a mixture of solutions of chloride of zinc or sulpho-carbolate of zinc; the same solution to saturate the lint, applied in the same way as in water-dressing, and enveloped in thin gutta-percha tissue, the whole supported by strapping and a light bandage. An outer envelope of cotton-wool or oakum completed a method from which he had obtained as good results as any, and which he had found it less difficult to insure being carried out.

He agreed with Mr. Lund's view. Erysipelas did not seem to be much influenced by antiseptic measures. It was a constitutional disease. Although usually showing itself first at the wounded part, it did not invariably.

In four cases of pyæmic affection the treatment to which he had subjected his patients was attended with success. Besides persevering in the antiseptic local treatment, and giving free access of fresh air, he said he had surrounded his patients

with a highly antiseptic atmosphere by placing muslin bags of McDougall's powder around and within the bed, and in abundance about the wound, so that he should both breathe the carbolic and sulphurous vapor and imbibe it through the skin. If the stomach were not feeble or irritable, he also gave three to six-grain doses of sulpho-carbolate of iron with the view of testing Dr. Sansom's practice. He took care not to give the drug soon after nourishment was taken, so as not to interfere with the first stage of digestion, and discontinued it at once if the appetite fell off or there was pain after taking it. Three of the cases showed in a week or ten days the peculiar slate-colored or olive-green color of the urine. These four cases completely recovered.

Mr. Wood said he believed cases of recovery frequently occurred under other methods or no methods; and that as much depended on the age and reparative power of the patient, the amount of blood-poison formed or absorbed, and the general conditions of the atmosphere as upon any system of treatment whatever. He attached much importance to free drainage in dressing wounds. When these were made by the surgeon a good deal might be done by a judicious choice of the direction of the incision in resections, etc., position of flaps, etc., in amputations. Mr. Hutchinson's plan of making a puncture in the popliteal space in excision of the knee-joint illustrated his meaning. The wound should be made to slope toward that part which was most dependent when the patient was laid in bed. For that reason the circular operation in amputations of the thigh was objectionable. Very good drainage was accomplished in the late Mr. Teale's plan of a single square anterior flap. He preferred in the thigh, however, an oblique double flap, with the outer end of the incision placed lower than the inner, and the front flap placed somewhat outside the limb, and longer than the hinder. He was convinced that this gave the most complete drainage, prevented the bone protruding, and made a shapely

and serviceable stump, with the cicatrix placed well behind the point of pressure.

Another important point in favoring the escape of discharges from the interior of a wound lay in the manner of securing the arteries. He believed, with Sir W. Fergusson, that so long as entire union was wanting, ligature threads might have the advantage of keeping open channels for the escape of discharges from the close neighborhood of the tied arteries, the accompanying veins of which were frequently the source of effusions of blood after the wound was dressed, and these would afterward clot and putrefy. He usually well steeped the ligature threads in carbolized oil, saturated so as to be unable to absorb discharges, and utilized so as to spread around an antiseptic influence. There was one point in the section of flaps which he thought might have influence sometimes on the introduction of pus or septic matter into the cut veins. When these were cut obliquely with the face of the flap, they were opened in a large conic section in the shape of a pen, and left, when placed on the underlying flap, in an attitude well adapted for receiving and conducting into their interior pus and putrid discharges, which gravitated from the surrounding hollow and often funnel-shaped sides. To obviate this he invariably after a flap operation cut off the larger veins transversely.

Mr. Wood next touched upon the radical cure of rupture. He said he had long thought we might prevent a return of the protrusion after the operation for the relief of strangulation. He believed that in a healthy subject the peritoneum might be dealt with as freely and as safely as any tissue; and that the chances of bad results from peritonitis would depend upon the injury sustained by the bowel in peritonitis rather than upon any way of dealing with the peritoneal sac and parietes after the strangulation had been relieved, provided due drainage were secured. When the bowel and omentum were congested only, and most likely to recover when placed

in their natural cavity, especially in young and healthy subjects, he concluded that the attempt would be justified and probably be successful. The advantage of preventing a life-long trouble was obvious. He then narrated three cases.

Mr. Wood said cases of ectopia vesicæ and epispadias possessed an interest for surgeons who had a tendency to plastic efforts. During the last ten years that his attention has been directed to this deformity he had met with forty or fifty cases. More had been recorded by Prof. T. Holmes, who first practiced successfully in this country, in 1863, the plan followed by Pancoast and Ayres in America in 1858. It had apparently been suggested by M. Richard's unsuccessful application of Nélaton's principle of laying a flap upon the parts to be covered, with the skin surface downward, and covering it with another. Other cases had been operated on in various ways by Messrs. Simon, Lloyd, Sydney Jones, and Thos. Smith, with, he believed, little success. He had himself operated upon sixteen cases.

For epispadias he had operated by Nélaton's method twice with favorable results. For hypospadias, in which the urethra was deficient below as far as the scrotum, he had operated three times upon a plan somewhat similar; viz., a reversed flap upon the side of the opening, with another from the scrotum superimposed upon it. A similar plan, combined with internal section and dilatation of the strictured urethra, he had found to succeed admirably and completely in two cases of penile urinary fistula communicating with the urethra in front of and close to the scrotum, accompanied with a hard cartilaginous stricture of the urethra.

Among the novelties of the year was the plan of M. Demarquay of passing a long flexible hollow bougie through a perineal urinary fistula previously enlarged by the bistoury, and then one end forward through the stricture and out at the meatus, and the other end backward into the bladder. Mr. Furneaux Jordan's plan of treating obstinate impassable

strictures by attacking them in the rear, through an opening from the rectum into the dilated urethra behind the stricture, was a valuable contribution to surgery.

Much had been done in other kinds of plastic surgery of late years. Since his own successful case of transplantation of skin from the abdomen to the arm for the relief of a frightful deformity of the wrist (published in the *Medico-Chirurgical Transactions* for 1863, vol. xlv) he had had two more successful cases. A similar operation had been also successfully performed by Mr. Thos. Smith in St. Bartholomew's Hospital; and his colleague, Mr. Hy. Smith, had lately had a very good case of operation upon the same plan for the relief of an extreme contraction of the elbow. In rhinoplasty, in which so much good work had been done by Mr. Hamilton, of Dublin, he had had some good cases of restoration of the nose from the cheeks and upper lip, some of which were found among the photographs laid before the meeting. The last case he had undertaken was about the most difficult one he had ever had to deal with, in the width of the chasm and the extensive loss of substance. The nasal bones, the vomer, ascending process, and a considerable part of the alveolus of the superior maxillary, and the whole of the ethmoid except the cribriform plate, had necrosed away as the result of scrofulous lupus. A great prominence of the frontal sinus also constituted a source of difficulty. To afford a basis for the new nose to be turned down from the forehead he had resorted to the plan frequently followed successfully by Sir Wm. Fergusson, of dissecting off and bringing toward the median line both cheeks. To secure the union of these, and to afford a prominence to the point of the nose, he had followed a plan which he had before employed in bad cases with satisfactory results. At the same operation he turned up the middle third of the upper lip and split it from its lower edge, turning over the borders so as to afford a bridge of support and an extended raw surface for union with the

apposed cheeks. This was rendered necessary to enable the cheeks to meet in the median line, as well as to insure their union to each other. When this had entirely healed, by a second operation he dissected up the mucous membrane from the bridge made of lip-tissue, and reflected it over the gap still left between the eyes, so as to form another bridge of support for the root of the new nose, and to prevent it from sinking into the gap so as to become too much depressed. He then turned down the new nose from the forehead, after the Indian method, fitting it on to the raw surface, which gave it admirable support, and kept up the point of the new nose in a manner which one does not commonly see after this operation.

He had practiced with advantage M. Reverdin's method in many rhinoplastic cases to eke out any deficiencies of skin in corners where it was desirable to prevent puckering from contraction, or to substitute skin-tissue for mucous membrane exposed by reversal of the upper-lip structure, which was apt to show its parentage unless subjected to more friction than was agreeable or possible on a newly-formed nose.

Mr. Wood said he had barely time, among the recent innovations of modern surgery, to notice one which "*l'audace*" of the French school is applying in a manner which those who have reached the rest-and-be-thankful stage in surgery might call daring, if not rash. He alluded to the use of M. Dieulafoy's *aspirateur* to relieve distension by puncture of the bladder in cases of retention of urine, and of the intestine in abdominal obstruction, and in joints affected with hydrops articuli, and even to evacuate the fluid contents in strangulated hernia. In the first-named of these conditions it was no doubt valuable as an adjunct to other remedies. Demarquay had not found it of much practical use in intestinal obstruction, because of the rapid re-formation of flatus, which corresponded to his own experience of puncture in desperate cases, without the aspirator. Mr. Wood said he had used it in

the puncture of joints and the cure of hydatids, though not frequently enough to pronounce upon its capabilities; but he had not as yet arrived at the measure of audacity to use it in strangulated hernia, as it scarcely agreed with his own impression as to the importance of avoiding any injury to the bowel in dealing with strangulated or other herniæ.

A NEW METHOD OF PRODUCING LOCAL ANÆSTHESIA.—Dr. Horvath, of Kieff, has lately proposed (The Doctor) a new method of producing local anæsthesia. If the hand be immersed for a short time in ice-water, severe pain is caused. But in experiments made in reducing the temperature of frogs by means of cold alcohol, Dr. Horvath found that no such pain was produced when the hand was immersed in cold alcohol, not even when the temperature of the alcohol was as low as 5° C. Glycerine was found to possess a similar property. Ether caused pain, and quicksilver more acute pain still, causing the speedy withdrawal of the finger when plunged into this liquid at a temperature of 3° . It was next ascertained that when the finger was held for quite a long time in alcohol having a temperature of 5° C. no pain was experienced. Moreover, although the faintest touch was distinctly perceived in his finger, no pain was experienced from sharp pricks. This seemed to show that the application of cold alcohol has the effect of depriving the part of the special sensibility to pain, without, however, impairing the delicacy of the general tactile sensation, which, as is well known, resides in the superficial integument. This apparent possibility of the artificial separation of these two nervous functions—viz., the tactile sensation and the sensation of pain, and the temporary suspension of the latter—seemed important in a physiological point of view, and also of no small practical utility in allaying certain forms of local pain, more especially that caused by burns and surgical operations. Dr. Horvath had an opportunity of testing the value of this application

to burns on his own person, as well as upon others; and not only was all pain instantly allayed directly the part was immersed in alcohol, but it was found that the wound very speedily began to assume a more healthy appearance, the surrounding redness rapidly failing.

TREATMENT OF BRONCHOCELE.—In an interesting letter written from London, by Dr. Beverly Robinson, for the New York Medical Journal, it is stated that bronchoceles of a hard and fibrous nature are now uniformly treated at the Hospital for Diseases of the Throat by injections with the compound tincture of iodine, B. P. The injections are made on an average, at the beginning of the treatment, once a week. At a later period, and when the tumor has notably diminished in volume, the injections are employed less frequently. The quantity of the liquid used on each occasion is thirty minims. This is injected directly into the tissue of the gland. A syringe very similar to the one familiarly known as that of Pravaz is adopted. Great care is to be exercised in washing it out immediately after the operation with rectified spirits, in order to palliate the hurtful action of the iodine on the joints of the syringe. During a brief period after the injection some few patients complain of severe pain or smarting in the goiter and its immediate neighborhood, but this is of a very temporary nature. Swelling of the tumor takes place very shortly after the injection. In twelve or fourteen hours diminution begins, however, and the tumor gradually lessens in density and bulk. At the expiration of a few weeks to a few months but a small portion of the original formidable tumefaction remains. Of the divers treatments we have seen employed in this form of bronchocele this shows itself the most successful.

The softer and, as it were, more generalized form of bronchocele is treated successfully by ordinary counter-irritation with the liquor epispasticus, B. P. The cystic form of bron-

chocele is treated by tapping the cyst and drawing off the serous or, as is more frequently the case, thick, coffee-colored liquid, and then by the injection of one or more drachms of a solution of perchloride of iron, one hundred and twenty grains to an ounce of water. The object of the injection of iron is to coagulate the blood which immediately follows the escape of the cystic fluid. This coagulated blood after a few days becomes purulent, and the cyst is converted into a chronic abscess. Sometimes more than one injection of the solution is necessary previous to the encysted liquid becoming purulent. The duration of this treatment, like that of bronchocele of a fibrous nature, is of course variable, depending upon the size of the cyst. Its success, however, appears certain, and we can bear witness to having seen many admirable cures result from its adoption. In a case in which the bronchocele had reached an enormous size—the patient's chin being pushed up by it to the farthest extent—after the cyst had been destroyed by the plan mentioned above, it was found necessary to use the injection of iodine into the walls, as they in themselves formed a considerable tumor. The result was a complete cure.

In *enlarged tonsils* excision is almost the exclusive treatment used. The tonsillitome is of simple construction, without the fork often seen made with them; and the operation is materially facilitated by external pressure, made by an assistant, below and behind the angle of the jaw. When the flow of blood becomes a source of anxiety, the hemorrhage may be immediately arrested by the patient swallowing small quantities, at short intervals, of a saturated solution of tannin in water. In comparatively acute cases we have seen the ablation of the tonsils lead to very excellent results. In more chronic ones, especially in children, persistent attacks of nightmare may often be stopped and the general nutrition very much improved by the same operation.

In *functional aphonia* we can testify to the astonishing

effect of the electric current. In patients who have been completely aphonic for a number of years we have seen the voice almost magically restored in a single sitting.

ON THE TREATMENT OF FIBROID TUMORS OF THE UTERUS.
Dr. Alfred Meadows, in a series of most interesting lectures on fibroid tumors of the uterus (London Lancet), says, in speaking of the therapeutics of the subject:

"Let us now see what art can do and what it can not; for it is quite as useful to know what to avoid on the ground of incompetence as it is to know what to undertake with a fair hope of success. There is, in truth, no folly greater than to attempt the impossible, and no worse treatment of conscience and of character than the habitual practice of un-reality—the pretending to do what in our heart of hearts we know we can not do. I fear there is not a little of this deception habitually fostered by the useless administration of drugs for a purpose which we must know to be utterly impossible of attainment. That there is ample scope for the employment of drugs in the treatment of these fibroid tumors I am well assured by abundant experience; but I am none the less firmly convinced that to persuade women for months and years to swallow gallons of medicine, mostly of a depressing and debilitating kind, and to irritate themselves with so-called absorbent ointments and embrocations, in the vain hope that we can thereby bring about the absorption and removal of a hard fibroid tumor the size of an adult head, or even of a walnut, in an organ deeply seated, and having no anatomical or physiological relation to the part we irritate, is not only unscientific, but it is unreal and dishonest. I would only repeat what I said on this subject several years ago—viz., that if we bear in mind the histological elements of which these tumors are composed, and the anatomical relations of the tumor itself to the part where the incision is applied, we must at once recognize the absurdity of the treatment,

and wonder how it could ever have been proposed, though that is far less difficult to understand than that in our day, with all our advance in pathology and therapeutics, it should still be practiced as diligently as if success had been a uniform result. I have seen this treatment perseveringly adopted for many years; but I can not say that I have ever traced the smallest benefit to it, and I have certainly never seen a tumor appreciably reduced by it. I do not believe that the current practice of giving preparations of iodine, bromine, and chlorine, in combination with iron, mercury, potassium, or calcium, has any thing more than custom in its favor, or can boast of such success as to warrant its continuance. If these drugs had the virtue which is imputed to them, we should expect to see it exercised, not occasionally and with extreme rarity, but, if not very frequently, at least in a fair proportion of cases; for it is unreasonable to suppose that a remedy which must act, if at all, in a definite and intelligible manner, should exercise its influence only once in hundreds or thousands of cases.

"I have used perseveringly the chlorides, iodides, and bromides of mercury, even to the maintenance of slight salivation, kept up for some time; but I must frankly own that, beyond the mischief to the patient's constitutional powers which they are well capable of effecting, I have not observed any result, and most certainly I have never seen the very smallest diminution in the size of the growth for whose removal it was given. In iodide of potassium and iodide of iron I have just as little belief for the purpose in question. Their value in certain glandular enlargements which are chiefly or entirely of an inflammatory kind, and in the inflammatory syphilitic affections, is undoubted; but there is a very wide difference between all these and the diseases we are considering; and while I have seen abundant evidence of the one, the other has never come within my observation, albeit I have been only too ready to see it."

Dr. M. has even less faith in the chloride of calcium, a drug whose reputation, he asserts, is most undeserved. He continues:

"While however, as I have said, I believe that drugs are utterly inert in promoting the removal of uterine fibroids, I nevertheless fully recognize their value in alleviating or removing the distressing symptoms which sometimes attend these growths, and here there is a very legitimate exercise for them. Sometimes these tumors, either in connection with or apart from the uterus, become inflamed, and they may, as I have shown you, go on to suppuration. They swell up, soften, as if from a kind of cedematous infiltration, and become more than ordinarily painful to touch. Quite recently I had a case of this sort under my care. The patient had been treated mechanically for ante flexion; that is to say, she had worn a pessary for the purpose of curing this supposed displacement. No relief, however, followed; on the contrary, the pain increased greatly. When I saw her the swelling in front of the cervix was excessively sensitive, and had a boggy, cedematous kind of feel. My suspicion that it was not ante flexion was first aroused by observing that the swelling was not entirely in front, but a little to the right of the cervix; and on passing the sound, which I did very gently, I found that it went in the normal direction and left the tumor unaltered. The diagnosis being therefore clear, it was easy to understand that the severe pain and tenderness were due to the irritation and inflammation set up by the pressure of the pessary on the tumor. I at once ordered leeches, warm injections, and effervescing salines, followed afterward by anodyne vaginal suppositories. The result was most satisfactory as regards the relief of pain and inflammation; and, what was especially noteworthy, the tumor rapidly and considerably decreased in size, no doubt by the removal of all inflammatory products, for the tumor at last became hard and did not diminish beyond a certain point.

"The treatment which I adopted in this case will be found, I think, generally successful in all cases where there is reason to suppose that inflammation of the tumor exists. This is not at all an uncommon occurrence, and the suffering is often very great. After the more acute symptoms have subsided and the tenderness is diminished we shall find great benefit from the local application of iodine in promoting the absorption of the effused inflammatory products. This should be applied directly to the part itself, and we may do so either by freely painting the cervix with the linimentum iodi every other day, or by applying pledgets of iodized cotton-wool after the manner suggested originally by Dr. Greenhalgh. Both these methods are very effective for the purpose in question; but, on the whole, I give the preference to the former, where the use of the speculum is not objected to, on the ground partly that patients generally prefer it to having a plug of cotton-wool left in the vagina for twenty-four hours, and also because not unfrequently the vagina is irritated a good deal by contact with the iodized plug, which necessarily affects a much larger surface than when the paint is applied over the limited space of the cervix.

"In regard to this local employment of iodine, I may say that I have on many occasions resorted to it for the purpose of securing, if possible, some absorption of the fibroid tumor itself; and although I have absolutely no belief whatever in the value of iodine when applied with this view over the skin of the abdomen, and not very much faith in its efficacy as a local application directly to the uterus itself, yet in a few cases I certainly have observed some diminution in the size of the tumor, which appeared to me to be due to the treatment adopted. I think too that the efficacy of this method is greatly enhanced by the occasional application of a few leeches to the uterus itself. It has appeared to me that this treatment is more successful in some kinds of cases than others; and, in general, I should say that the smaller the

tumor the softer it is, and the nearer to the cervix the more likely we are to be successful. I have noticed also that the subperitoneal varieties are far less amenable to this method than the interstitial; and of course it is only in these two varieties that we should think of adopting such treatment, the submucous and polypoid forms being reserved for the surgical treatment, which I shall presently describe. It may be added that this iodine and depleting treatment is of no avail unless it be perseveringly continued for many months. If therefore the patient is not prepared to submit to this, it is useless beginning it. I seldom give any medicines internally, as I have no belief in them. They often do more harm than good to the general health, and it is quite enough to be obliged to give some drugs for the purpose of combating the more urgent or distressing symptoms."

Of palliative treatment proper, which will be directed in the main to the relief of one or other or all of the three leading symptoms—viz., menorrhagia, irregular discharge of mucus or of blood, or pain, the first of which is the most common and probably the most trying and troublesome symptom to treat—he says:

"Of course I need not say that astringents will under such circumstances be called for, and among the many that have at different times enjoyed popularity it is difficult to select one which shall prove most effectual. Indeed I do not hesitate to declare that there is no single remedy that I know of which can be relied upon with any thing like certainty to check the hemorrhage or arrest the menstrual flow in cases of this sort. I have tried in turn most if not all the so-called hemostatics, and I can not say of any one of them that it has been uniformly successful, or that it has not at times most signally failed. Gallic acid in one case, astringent chalybeates in another—and of the latter I know of none that is so effective as the ethereal peracetate of iron in half-drachm doses; acetate of lead in the third, taking care always in giving the

latter to do so in solution with the dilute acetic acid; ergot of rye in a fourth, in half-drachm doses, giving this in the recent powder in preference to any other form; these are, according to my experience, among the most efficient remedies of this class. But there is one that I have used during the last twelvemonth which certainly seems to me by far the most effective remedy of the kind that we possess; I mean the watery extract or liquor of the common periwinkle—the *extractum vincæ major liquidum*, as it is called. This, taken in drachm doses, properly diluted, every four hours, I have seldom known to fail. It is certainly by far the most efficient remedy that I know of for the purpose in question. Why one remedy answers at one time or in one case better than another I am quite unable to say. Constitutional or local peculiarity may have to do with it; but in any case I can lay down no rule for your guidance, for the whole thing seems to be purely empirical. Of those agents which, while possessing no astringency, have nevertheless in some hands proved effective as hemostatics—such as digitalis, turpentine, Indian hemp, and mercury—I have no satisfactory opinion to offer, for the reason that they have all in my hands proved utter failures. Of course, where great anæmia exists, a chalybeate astringent would seem the most fitting; but I have on many occasions found it rather increase than diminish the bleeding. The same may be said also of ergot. Dr. McClintock speaks very highly of the hemostatic properties of mercury, confirming in this respect the experience of Dr. Tanner, who found it a most useful agent for this purpose. I must own that I have never seen such a result. If I were to place the medicines in the order in which I have found them of greatest value, I should assign them as follows: the liquid extract of the common garden periwinkle, the ethereal peracetate of iron, ergot in the form presently to be described, gallic and sulphuric acids with the compound infusion of roses, the acetate of lead with dilute acetic acid, and in a

few rare cases of the congestive kind the local abstraction of blood by means of leeches to the cervix; these have all, in turns, proved efficient in my hands. As a general rule, I have observed that when hemorrhage does occur, which is very seldom, in cases of subperitoneal fibroids, it is more easily arrested than in either of the other varieties; and for such the periwinkle or the chloride of calcium, given perseveringly for months, has been the most successful. In interstitial fibroids the bleeding is more difficult to control, and ergot of rye or borax has proved the most efficient agent in such cases. In the submucous, and still more in the polypoidal forms, the difficulty of arresting hemorrhage is greater than in either of the others. Here the vinca major and the more common astringents—such as gallic acid, sulphuric acid, iron alum, or the peracetate of iron—have appeared to me to answer best.

“There is one other remedy which I have tried quite recently in three cases, and the result in one of these was very marked; I allude to the subcutaneous injection of ergotine. The solution which I employed contained ten grains of ergotine to a drachm, and from five to twenty minims were injected each day. In one case severe cellular inflammation followed in the site of the puncture, so that the treatment had to be discontinued; in another it excited so much pain and distress about the præcordia that I was obliged to desist, and in neither did any good result; while in a third the remedy was continued daily for ten days, and not only did it produce a decidedly beneficial result in regard to the next menstrual period, but the hemorrhage was restrained for two months afterward, when the case passed from my observation. I believe that we have in this agent a powerful hemostatic remedy, for I am informed that very good results have followed its practice in other hands.

“In addition to the above, the local application of astringents will often prove most successful; and these we may

apply either in the shape of vaginal suppositories of tannin, or the glycerine of tannin, or matico or alum, or we may inject the uterus with the perchloride of iron, though I very much prefer the use of the anhydrous zinc points as suggested by Dr. Braxton Hicks. In the more severe cases, where a fatal issue seems almost to threaten, it will be necessary to resort to the use of the tampon."

CHLORIDE OF POTASSIUM IN EPILEPSY.—Dr. Lander uses chloride of potassium instead of bromide of potassium in epilepsy. He mentions the following advantages in the employment of the substance: "It is more active, is but one sixth of the cost, and has not the secondary effects of the bromide. He begins with small doses, but has been able to continue the use of the substance for months without any inconvenience in daily doses of from one drachm to a drachm and a half. According to Dr. Lander, bromide of potassium is transformed into the chloride in the stomach. This is therefore an additional reason for prescribing it at once in this latter form."—(Scalpel, Belgium.)

TEMPERATURE IN PLEURISY.—M. Bouilly, who has specially investigated the above question, says: "1. There exists a *pleuritic fever*, the mean duration of which is from twenty-eight to thirty days, whether the effusion is abundant or moderate. 2. Thoracentesis does not notably diminish the duration of the febrile condition shown by the thermometer, though it considerably diminishes its intensity. 3. In serous pleurisy the thermometer does not afford the valuable results which it does in purulent pleurisy." (Lancet.)

Notes and Queries.

REMOVAL OF FOREIGN BODY FROM THE LARYNX.—Richard Brandeis, M. D., of this city, recently effected the above under the following interesting circumstances:

"Mrs. K., aged thirty-four years, of a robust and healthy appearance, came to me on the 15th of October with the following history. She stated that during the last four months she has been troubled with a violent hacking cough, which only disappeared after the expectoration of large quantities of muco-purulent phlegm; has had constant pain and irritation of the larynx, occasionally causing almost complete aphonia. She has had occasional pains in her chest, mainly during the first two weeks of her indisposition, which induced her to consult a homeopath in this city, who told her that she was suffering from chronic laryngitis and tuberculous phthisis. Ignoring the teachings of his master, the homeopath treated the patient in genuine allopathic style; giving large doses of cod-liver oil internally, making local applications of nitrate of silver to the entire pharyngeal cavity, and ordering repeated inunctions of croton-oil on the chest. As this treatment did not improve but appeared to aggravate the trouble, even though faithfully following it for four long months, Mrs. K. called upon me and gave me her history as above detailed. On examination I found that the larynx was sensitive to the slightest external touch, the slightest pressure on the pomum adami giving rise to cough and marked dyspnoea. The lung after careful examination was found healthy. The pharynx was found to be excessively engorged and very irritable, the slightest touch giving rise to vomituration. On

inspection with the laryngoscope the epiglottis was found very much inflamed and œdematous, moving but slightly on phonation, and presenting the same appearance as noticed in the first stage of *œdema glottidis*—both arytenoid cartilages, as well as the aryepiglottic folds, inflamed and enlarged, and the true vocal chords so much engorged with blood that they could hardly be distinguished from the false bands.

"The patient was very restless, and only after repeated trials did I notice a peculiar appearance in the left ventriculus morgagni; *i. e.*, a pearly-white band resembling a diphtheritic patch or a syphilitic cicatrix. Although my suspicions were somewhat aroused by this, the patient denied emphatically ever having suffered from either of the diseases just mentioned. I urged Mrs. K. to cough, and on so doing she expectorated a considerable mass. I again examined the larynx, and to my surprise saw the end of a piece of sewing-thread suspended in the rima-glottidis. Knowing this to be the *corpus delicti*, I dipped my laryngeal brush into some mucilage, introduced it into the larynx, and succeeded in withdrawing a piece of thread about five lines in length. The patient immediately experienced a sense of relief, and told me that she was in the habit when sewing of biting off a piece of thread, chewing and occasionally swallowing it. The bit of thread removed probably first lodged in the right pyriform sinus, worked its way down to the ventricle after passing over the aryepiglottic ligament, and thus gave rise to the distressing symptoms. I made several applications of tannic acid, and to-day (three days after the first visit) discharged the patient entirely relieved."

REGISTRATION.—Dr. Foss, who is making the most strenuous efforts in behalf of registration in our state, informs us that he has received petitions from about twenty counties in Kentucky, and only requires the co-operation of a few more physicians to secure such a presentation of the case

to the next legislature as will insure the passage of a registration law. Dr. Foss has devoted himself to this work with a zeal and intelligence which is worthy of all praise, and we do hope that his brethren in all the counties yet delinquent will imitate his example. We would lend all the influence we can exert with our professional brethren in Kentucky to the disinterested exertions of Dr. Foss.

YELLOW FEVER.—This fatal fever, as is known to all our readers, has been raging as an epidemic for six weeks past in Shreveport and Memphis, and has also prevailed with severity in some of the towns of Texas. At Shreveport it has been announced that more than fifty per cent. of the earlier cases proved fatal. From the 14th of September, when it broke out in Memphis, to the 25th of October, it is reported that more than a thousand persons had died of the fever in that city. The present is the third irruption of yellow fever in Memphis. It appeared there the first time in 1855, when by common consent it was referred to New Orleans, from which place it was believed to have been imported by the steamer *Harry Hill*. It broke out again, in 1866, in the wake of cholera. This epidemic has also come in the wake of cholera, and at a season when New Orleans was comparatively healthy, having probably originated in Memphis.

At first it was prevalent only in certain localities, and chiefly among the poor Irish population; but gradually it has spread over the city until every quarter has furnished victims, among whom are numbered several physicians. It was hoped that the frosts which occurred about the 10th of the month would check the pestilence, but they were too slight to produce any such effect. Doubtless the lower temperature of the 21st and 22d will be followed by a favorable change.

The fact is one of great interest, that while refugees from the infected city have died of yellow fever in all the towns

around Memphis, in no instance has the disease been propagated. Several deaths from the fever have occurred in Louisville in persons who had contracted it in Memphis, but without communicating it to their nurses.

We hope to be able at an early day to lay before our readers a history of this epidemic in Memphis.

DR. BALDWIN AND HAY ASTHMA.—Our valued friend, Dr. W. O. Baldwin, has been for many years a victim to hay asthma. We had the pleasure of a short visit from him a few days ago, in which he informed us that he had escaped his tormentor this season by resorting to the Hot Springs in Arkansas a short time in advance of the expected attack. The many friends of this distinguished and popular physician will be gratified to learn that he has enjoyed perfect health during all the period in which for so many years past he has been a sufferer from hay asthma, and the numerous subjects of this intractable affection will take encouragement from his case. If the Hot Springs should prove as efficacious in other cases there will be no bounds to their popularity.

SPECIALTIES.—Dr. Robert Barnes is not without humor, as witness the following from the London Lancet: "I have recently been honored by a visit from a lady of typical modern intelligence, who consulted me about a fibroid tumor of the uterus; and lest I should stray beyond my business, she was careful to tell me that Dr. Brown-Séquard had charge of her nervous system, that Dr. Williams attended to her lungs, that her abdominal organs were intrusted to Sir William Gull, that Mr. Spencer Wells looked after her rectum, and that Dr. Walshe had her heart. If some adventurous doctor should determine to start a new specialty, and open an institution for the treatment of diseases of the umbilicus—the only region which, as my colleague, Mr. Simon, says is unappropriated—I think I can promise him more than one patient."